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AUTHOR Moseley, Christopher
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ABSTRACT

The future of endangered languages is discussed, drawing on experiences in development of an atlas of language. Issues in the debate over language maintenance are examined, including the emotion-laden concept of ethnicity and relative youth of the concepts of human rights and linguistic geography. The fact that the atlas in question indicates only indigenous language use is also discussed, and cartographic reasons are noted. Description of the process used to create the atlas' first edition exemplifies the difficulty of indicating languages with small or widely dispersed populations. The case of Canada is used for illustration of the occasional conflict between synchronic and diachronic perspectives in atlas development, including the French/English situation in Quebec, shrinking indigenous language groups, widely varying population densities and composition, difficulties in gathering accurate and timely information, and extralinguistic factors outside the researcher's expertise or prediction. The case of the Livonian language is offered as an example of an endangered language affected by international politics. Issues in language use prediction are then addressed, including difficulties in monitoring change and creating an adequate corpus for reference. Criteria for assessing language health are listed, and a brief continent-by-continent survey of languages is outlined. (MSE)

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Mapping the future of the world's languages

Christopher Moseley

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Mapping the future of the world's languages

Christopher Moseley

Since the publication of the Atlas of the World's Languages, which I edited jointly with Professor Asher of the University of Edinburgh, at the beginning of last year, the publicity it has received has tended to focus on one aspect almost exclusively: the future of the world's endangered languages. I have to say right at the outset that it wasn't the primary purpose of the Atlas to highlight the plight of about half of the languages spoken in the world today, but I'm not surprised, in fact I'm rather pleased, that reviewers and interviewers have returned time and time again to this question, because it is the most urgent question that the Atlas, almost inadvertently, posed. As the editors of the Atlas, we can't claim to be the first to point out the dangers of extinction posed to such a large proportion of the over six thousand languages mapped in it, but somehow the graphic presentation of the scale of the problem has spurred some minds to think about an issue that might not otherwise have attracted their attention. The question of endangered languages isn't a new one, but it is one that is attracting a growing groundswell of interest and concern, not only among ethnographers and linguists, but even among legislators, and, as we see here today, philosophers. Before I try to extract from the Atlas a few tentative predictions about the future of the world's endangered languages, I would like to untangle some of the strands of thought that have so far gone into the debate on the need to preserve the world's language stocks in all their diversity.

It is not so very long since an analogous concern for biological diversity, the preservation of genetic stocks, gave rise to the well-publicized international conference in Rio de Janeiro. It seems to me that some of the current interest in linguistic diversity as an inherently desirable thing may have stemmed from the interest generated by that conference. The threat to the environment and to ecosystems from pollution and from the activities of conflicting multinational, national and regional interest groups is in this case more easily measureable, more concrete, than the data that is generally presented in arguments about ethnicity and language.

For one thing, ethnicity itself is a rather slippery concept, often bound up with subjective judgements, and often language is its only measureable criterion. The 'right' to maintain a distinct ethnic identity may well be a 'right' that we as linguists and as human beings may wish fervently to acknowledge, but the hard fact is that the whole concept of 'human rights' has only really burgeoned in the second half of the twentieth century. Likewise the study of linguistic geography, the mapping of language distribution, is also something which is in its infancy compared with some of the other human sciences - and so linguists' awareness of the plight of language communities can barely keep pace with the moral imperatives they are being asked to consider by those ethnic groups which have organized themselves and found a channel or forum for their grievances - and the interest groups which in turn control those channels and fora are an issue that we will have to leave aside for the present.

One of the reasons why the question of endangered languages is thrown into such sharp relief in the Atlas of the World's Languages is that it only shows indigenous languages in each territory. I realise that there are disadvantages in this, as the source of the danger is in most cases a language of colonial expansion, but we chose this method for good cartographic reasons: in countries of great linguistic diversity, such as Nigeria, or to give an extreme example, Papua

New Guinea, it would have been both misleading and distracting, we thought, to try to represent the incidence of native speakers of the languages of colonization, even if their numbers are known, as a kind of 'overlay' over the distribution of indigenous langauges. This might seem to be a disadvantage where it applies to countries where the conquest has been an overwhelming one, but we had to strike a balance and aim for consistency. The criticism might equally well be levelled at the Atlas that, in having no relief maps, it fails to show the topographic reasons for population distribution. Admittedly this might have been a useful feature, but again, on the other hand, in so many instances it would have overloaded the maps with information to an extent that would have actually reduced their usefulness.

These are problems about which I for one am keeping an open mind, however, and perhaps we will be able to address them in future editions. For future editions there are certainly going to have to be, given the fluctuating nature of the world's language distribution.

For those of you who are not familiar with the Atlas, let me explain a few facts about it. It is divided into eight regions, each with a different regional editor. Each section is roughly evenly divided between maps and explanatory text. [Perhaps demonstrate here] The projection does not vary, but of course the scale does, depending on the complexity of the language situation on each map. As a rule of thumb, we tried to keep to a maximum of 50 languages per map, for the sake of clarity. Each language is indicated by a colour and a number, and identified in a Key which appears as an inset. Genetic relations between languages are also coded by colours, thus [choose an example]. The colour coding for the various language families is not necessarily uniform throughout the book, as the overriding consideration was to provide maximum colour contrast within each map, so that the reader can tell at a glance which languages are related and which are not. The eight regions are:

The Americas
Australasia and the Pacific
Western Europe
Eastern Europe and Northern Asia
Middle East and North Africa
South Asia
East and South-east Asia
Sub-Saharan Africa

* It is basically a synchronic atlas. I don't intend to speculate here on how we can predict the world's linguistic future on the basis of past trends alone, as many of the major factors militating against minority languages today are unique to our own age.

To carry out this project we had to draft in a large number of experts from around the world, and they in turn had to draw on the work of previous scholars while making sure than the data was the latest available.

For two of the continents, there was no getting away from the fact that most of the languages whose existence has been recorded are now extinct. These were the Americas and Australia, of course. In these cases we decided to compare the present-day situation with the situation as it was thought to have been at the time of the arrival of the white man. The more detailed maps for these continents are therefopre the 'time-of-contact' maps, even if many question-marks apply as to the affiliation of various recorded languages and their status as languages or dialects. As for the present-day situation, in the case of both the USA and Canada the numbers of native speakers for most languages are so few that we deemed it best simply to show the designated locations of reservations. In the case of Australia, where the numbers of native speakers are likewise low and the populations at least partly nomadic, we incorporated the present-day map as an inset in one of the two showing the situation at the time of contact.

I'd like to come back later and in more detail to the question of how much we can predict from the data in the Atlas about the language situation on the planet say, a hundred years from now, but for the present let me just stop to clear up a misconception that occasionally crops up in the press' treatment of language and ethnicity, rather than in the specialist literature on the subject: at least I have found this in the media's treatment of the Atlas. So you'll forgive me for stating the obvious, but language and ethnicity are not the same thing. If we need proof of the fact that language and ethnicity are separate issues, we need only look at recent events in Rwanda and Burundi, where language is not an issue in what is universally regarded as an 'ethnic' conflict between the Hutu and Tutsi peoples. Closer to home, of course, we have the example of Ireland, or any other of the Celtic nations of the British Isles for that matter, but in Ireland particularly it could be said that language is a factor in ethnic identity, but more of emblematic significance, so to speak, than an element of daily life, despite the best efforts of the Irish authorities, and now even of pan-European bodies, to integrate language with ethnicity. Eminent modern scholars of endangered languages such as Nancy Dorian have pointed out that "any feature of group membership can be used to mark identity" - but because language is the most malleable medium for communicating that identity across space and time, naturally outsiders tend to pick on it as the most salient feature of ethnicity.

So with that in mind, I'd like to dwell for a moment on one of the areas which we have been forced to consider separately from the synchronic and the diachronic point of view in the Atlas, namely Canada. I mention Canada not because our representation of it is an outstanding feat of cartography, but because language and ethnicity are viewed on more than one level in that country. One of the most well-publicized language conflicts in the world is that between English- and French-speakers in Quebec. Hundreds of column-inches in newspapers, and dozens of learned articles, have been devoted to this issue. It is a highly politicized and highly emotive conflict being fought out in an arena where the media are well-primed and well-positioned to give it wide publicity. It is not an issue of material deprivation, and most assuredly it is not an issue of an endangered language. Both parties to the conflict are speakers of languages that are thriving robustly elsewhere in the world, and the uniqueness of the varieties spoken in Canada is not a major issue either. But some of the other factors in the conflict are relevant to the future of other languages spoken in Canada too - namely those languages that actually are shown on our contemporary map of Canada, amid all that vast white Europeanized space - quite apart from the mother tongues of the immigrant communities that have settled in Canada, and which also fall outside the scope of that Atlas. The future of French in Quebec is alleged by some of its champions to be threatened by the all-encompassing use of English elsewhere in the country, and the preservation of French is used as an argument in the separatist cause. How much more of a threat, then, is posed to the indigenous languages of Canada, whose speakers are so few and so scattered that we, as compilers of the Atlas, were forced to resort to showing the locations of reservations to prevent them from disappearing into total oblivion! [Quote numbers of speakers of some Canadian languages here] I've singled out Canada here simply to show that the Atlas has both advantages and disadvantages as an indicator of the linguistic composition of countries with wide variations in population density and a complex ethnic structure, both indigenous and immigrant. And Canada's indigenous people do not own or even have a big share in its mass media.

The collection of data by governments on the ethnic composition of their countries' populations varies quite a lot in scope, and the contributing editors of our Atlas have tried not to rely on census data alone, as in many cases they are simply not adequate. To take Canada as an example again, census forms do indeed contain quite detailed questions about language use and proficiency. The questions themselves are posed in English and French - which is what one would expect, given the official status of those languages. The speakers of the indigenous languages of Canada are assumed to have literacy in one or both of those languages. Judging from the rough estimates of numbers of speakers we have in the Atlas, an absolute maximum of one hundred and forty-five thousand people in Canada have one of its indigenous languages as their first language - but as far as fluent command for everyday use is concerned, the figure is bound to be much lower. Incidentally, the most recent census of Canada that I have seen gives a population of over twenty-four million, of whom over seventeen million claim English as their mother tongue.

I mention census statistics also because they are compiled by the highest official authorities to which the linguist can turn at a national level. But we know that in many countries it will be to a government's advantage to doctor the figures to suit the temporary agenda of the government in power. And though we have transnational bodies, of course, such as the European Union and the various organs of the United Nations which are also able to compile and issue data on a country-by-country basis, their mandate is only the sum total of the co-operation of their member states' governments. There is so far no truly independent transnational body that I know of to monitor the attrition and extinction of languages, although there are organizations such as Survival International which concern themselves with the welfare of tribal peoples. Until now, that is. In conjunction with this seminar, as you know, the Foundation for Endangered Languages is being set up to rectify this serious shortcoming, and I for one hope that it can achieve great things.

In monitoring and trying to predict the fates of threatened minority languages, there is a range of factors that needs to be taken into account. I won't claim here to be able to list all the variables: I'm sure that by the end of this seminar we will be able to add some additional factors to the list, but let me suggest a few here. They can be broadly divided into linguistic and extralinguistic factors, and the subtle interplay of these factors is something to which monitors of endangered languages are going to have to react very sensitively.

The linguistic factors have already been identified fairly well by those linguists who have specialized in the study of endangered languages. Firstly we have the attempt to quantify the degree to which the dominant majority language impinges on the threatened minority language, and where possible, to identify the levels at which the damage or corrosion occurs, and in what order: the phonological, the lexical, the morphological, the syntactic. Secondly there is the task of identifying and describing the social environment in which the dominant language invades the domains of the threatened one: language use in the home, in religious life and social gatherings, in trade inside and outside the language community, and in the media and

education, including of course literacy.
Aside from these concerns we have to consider the extralinguistic factors, and many of these are either unpredictable or outside the usual field of the linguist's expertise. I'm thinking here of demographic factors such as birthrate and deathrate; population movements due to economic factors; the expansion of international media networks such as satellite television; changing perceptions of what is a prestige language as a tool for social advancement. Any one of these factors can have a catastrophic effect on language use, and any combination of them can be lethal for a language. To take just one of these factors, the urbanization of certain countries in Africa, the movement of economically disenfranchised and disposessed population groups to the cities will, I predict, need to be studied very closely, with all its implications. This alone raises a host of questions:
Is only a restricted stratum of the speech community moving to the cities?
Is the speech community resettling itself in a cohesive group or ghetto?
What educational opportunities are available for immigrants to the cities, and in what languages?
Is the population movement the result of a deliberate resettlement policy, or of economic pressure to seek a new livelihood?
Is the movement generally one of whole families, or only of breadwinners?
What level of literacy existed in the speech community's home area, and how is that level affected by the population movement?

These are just some of the questions that are bound to arise in any study of the linguistic implications of urbanization.

The experience of editing the Atlas has brought home vividly to me the fact that we can't expect to be able to monitor data on endangered languages with equal accuracy throughout the world. There is an urgent need to gather enough data even to establish the affiliation of some languages, notably in South America, but also, for instance, in Papua New Guinea. The rate of language extinction is very rapid in South America, which makes the task all the more urgent; it is also rapid in Australia, less so in South-East Asia, Papua New Guinea and Africa, to name some of the more linguistically complex areas. In past decades we have had to rely for our data on the fieldwork of trained linguists dealing with individual languages or small clusters of languages and dialects, and also on the findings of bodies such as the Summer Institute of Linguistics.
Of course, language extinction is not only a Third-World phenomenon. It exists, as I've already mentioned, in North America, and it is going on in Europe as well. I know that other speakers at this seminar will be telling us more about developments in the Celtic-speaking parts of the British Isles, so I won't dwell on those here, but I might mention that my own research has dealt with what will probably be the next language to die in Europe, namely Livonian, spoken by the remnants of the now scattered community that once lived in a few fishing villages on the coast of Latvia. The Livonians have been bilingual in Latvian for centuries, but were able to maintain their Finno-

Ugrian language, genetically unrelated to the dominant one, because they maintained a cohesive and rather isolated speech community with a fair degree of economic independence. Trade was conducted with outgroups, the Latvians, but along well-defined lines: fish was exchanged for agricultural produce, to put it simply. I don't want to digress here into a detailed excursion into the Livonians and there language, but I would like to see if we can find parallels with their situation elsewhere in Europe and elsewhere in the world. Looked at from the point of view of language relationships and genetic affiliation, they might be compared with, say, Hungarian-speaking communities in, say, Slovakia, Austria or Romania - but here, of course, the big difference is that a speech community exists in the nation-state of Hungary with which these speakers can identify. Looked at from the point of view of sociolinguistic factors, a much closer parallel exists in Scotland, in the Gaelic-speaking community which Nancy Dorian has studied. Again a standard language - although one that is everywhere threatened - does exist outside this particular community - but in other ways there are close parallels in the way the speakers relate to the dominant speech community and in their own cohesiveness, even down to their means of livelihood, the fishing community. But the ultimate reason why the Livonian speech community disintegrated has nothing to do with any of this - it is almost purely the result of power politics. Geographically and economically, the Livonians were not particularly vulnerable - they didn't lie in anyone's path to anywhere else, and as a nation they had not posed any threat since they were Christianized at the time of the Northern Crusades in the 12th and 13th centuries - but geopolitically they were in a very sensitive strategic position, at the western edge of the Russian empire, in a vulnerable location by the Baltic Sea. So during the first world war their villages were declared a strategic area and the population was forcibly removed inland and their habitations and fishing boats largely destroyed and plundered. However, they did return in reduced numbers after the war and resumed their way of life, now part of the independent state of Latvia. When the same thing happened again in the second world war, however, with the consequent occupation and plundering alternately by German and Soviet forces, this spelt the end of the Livonian speech community. Even those few who did return to the coast alive found that it was not possible to continue as a fishing community, partly because fishing was now a collectivized industry, with headquarters outside the speech community and imported labour even there, and partly because their villages continued to be part of a Soviet strategic area, which not even Latvians were permitted to visit. This situation remained so up until the end of the Soviet era, and the Livonian coast was among the last areas to be completely vacated by Soviet troops, only in the past couple of years.

I could go on at length about the Livonian situation as an example of an endangered language, but I mention it as an instance of the effect that international power politics can have on an already weakened language - an effect that I am sure we can find both now and in the future, elsewhere in the world. But what I should mention before we move on from the Livonians is that the story of their language is not yet over. By the time Latvia regained its independence in 1991, the number of fluent native

speakers of the language, all of them elderly, was down to single figures, eight or nine. My own informants are now dead, in fact. But a Livonian Cultural Association, formed by people of Livonian descent, was already in existence, and it vigrously campaigned for the creation of a special cultural-historic area centred on the Livonian villages. Fortunately this was economically viable even for a poor country like Latvia, as the area was already skirted by a nature reserve. In addition they have campaigned for, and won, the recognition of a separate Livonian nationality, in legislation and passports - something they were denied even in censuses during Soviet times - and Latvian citizenship legialtion now consistently mentions the phrase "Latvian and Livonian" throughout. Furthermore, a monthly newspaper now exists, and even a monthly radio broadcast for the Livonians - though it's still largely in Latvian. At least two hundred people now claim Livonian ethnic identity, and language classes in the towns where people of Livonian descent live are thriving.

At the time when I began my studies of these people and their language, just a decade ago, none of this seemed possible. Yet it has happened. It's still too early to say whether the language will survive beyond the lifetimes of its current champions and enthusiasts, because it is still true that there is no functioning speech community as such. If this situation can be multiplied many times over in other parts of the world, there is cause for hope and optimism.

But why do I use words such as 'hope' and 'optimism' at all? It implies that there is something intrinsically worthwhile about preserving and even resuscitating a language. I dare to use these words, in a world being shrunken daily by the standarization of 'improved' communications, because I believe, with Nancy Dorian, that "every language is unique". Not just unique in the superficial sense of sounding or looking different, but in the deeper sense of being the repository of the accumulated thoughts and experiences of a people, with all the richness of metaphor, imagery and specialized knowledge that that implies. Embedded in the vocabularies of the hill tribes of Thailand, the aboriginal peoples of Australia, the indigenous nations of North America, the Celtic peoples of Britain and even the Livonians of Latvia is a wealth of unique experience that can only have developed and flourished in those particular places over many lifetimes. This is not a romantic illusion; it is a quanitifiable fact. It can all too easily be turned into a romantic illusion of course, by turning the world's endangered speech communities into theme park specimens for the amusement and gratification of the last generation to see them alive. And we all know that this is happening now in many places, and is bound to go on happening. It happens in microcosm every time an indigenous person sells a trinket to a passing tourist, conducting the transaction in the tourist's language. It happens in the organized displays of folkways we see in the urban centres of countries that are eager to attract foreign wealth. It is an eternal rule of economics, of history, of politics and of nature that the strong exploit the weak. The frame of mind we are going to have foster, then, if we are going to have any success at all in conserving the world's diverse language stocks, is one that appreciates the curious fact that, while all people may not be equal in any way that economics, history, politics or nature can take account of, all

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languages are equal. They are all equally diverse, rich, and expressive - assuming that there are still speakers in full command of them. It is as a speaking animal that mankind is equal in any sense that his fellow men can measure.

So let us get down to brass tacks. How can the future of the world's langauge stocks be predicted and mapped?

It seems to me that two major tasks present themselves. One of them is to set up a mechanism for constantly monitoring the situation of endangered languages worldwide; the other is to assemble a corpus of material on as many of the world's languages as possible, so that if and when a language dies, reference material on it will be available, and we need never again face the prospect of a language disappearing undocumented forever. The challenge of the first task will be met by the newly-established Foundation, I hope. [Include any documents about its aims and organizational methods here.] The second task, that of gathering a corpus of material, has yet to be achieved, but the publishers of the Atlas, Routledge, are undertaking an ambitious project along these lines. The Atlas is one of those works of reference that will lend itself to the Compact Disc format, and in conjunction with this, Routledge is in the early stages of preparing an auditory dimension to accompany the Atlas. It is called the World Languages Corpus, and its aim is to capture on sound recordings as many as possible of the world's languages. It will be published as a collection in CD-ROM format. The number of languages presented will be limited only by availability and access. The samples of native speech, either a dialogue or a monologue of natural speech in a non-specialized register, will be accompanied by an identfication of the age, sex and regional origin of the speakers, and a transcription of the sample, written in the usual script of the language, in the International Phonetic Alphabet or a modification of it, and a literal transcription into English. We have just sent out a questionnaire to a wide range of linguists in both academic and official positions in every country in the world that possesses its own indigenous languages, and/or distinctive varieties of colonial languages. We are asking the contributors to provide the materials by the end of this year, so we hope to have something to work on in 1996. We are also asking the contributors to indicate clearly the status of the recorded sample: whether it represents the standard, a pidgin, a creole or a dialect.

Obviously such a wide-ranging project is going to depend for its success on the co-operation of the contributors, so it remains to be seen whether we will have a viable corpus for publication, but I'm optimistic, and I'm sure we'll learn a lot in the process of compiling it.

Obviously the corpus alone is not going to provide all the information we need to be able to forecast the future for each language, even if we do come somewhere near the total tally of living languages, which would be a very ambitious expectation indeed. We still need to gather information about the demographic, social, economic and even historical factors that have a bearing on language use, bilingualism and multilingualism. This is where I hope the Foundation for Endangered Languages will be able to make a useful contribution. The big question remains: should such a body have a prescriptive role or merely a descriptive one?

We should be able to hope that, as a clearinghouse for information about endangered languages, the Foundation would be in a position to advise and assist governments on their protection, but it is unrealistic to expect that, in countries where there is great ethnic diversity, the authorities would take an interest in issues that tend to emphasize fragmentation rather than national unity. Languages will continue to be endangered as long as there is no legislation at the international level to protect them - though we all know that legislation in itself is not enough. First there must be a willingness and a motivation on the part of the speakers themselves to maintain the mother tongue. And in countries where there has long been an official assimilationist policy, all the factors that impinge on language use tend to be weighted against the preservation of minority languages. For instance, if languages continue to decline even in designated reservations in North America, how much more likely is the decline to be rapid and complete in, say, Australia, where the Aboriginal land-rights issue is far from resolved, and the government policy throughout most of this policy has been neither consciously assimilationist nor deliberate apartheid, but rather an ambivalent attitude of partial assimilation, partial separation of half-caste stocks, and a recent policy of multiculturalism which has been more geared to the assimilation of the post-war immigrant communities, who easily outnumber the Aboriginal population anyway? In Australia, the study of Aboriginal languages by outsiders, and efforts to maintain indigenous languages, have been very belated, as you will see from the statistics I would like to give you shortly. The end result of Australia's ambivalent policies toward its native population has been the exctinction of a large percentage of the native languages during the past century - in fact probably the most rapid decline of the largest number of languages on any continent.

We needn't wring our hands overmuch, I feel, about the fact that it is always outsiders, the speakers of majority languages, who seem to initiate the efforts on behalf of minorities. Perhaps we are just salving our consciences, some of us, for having been the agents of some real or perceived imperial power - that is no bad thing in itself. What unites those who wish to see endangered languages saved and preserved, I assume, is a belief in the value of diversity. And I genuinely do believe that an outsider's interest in a minority language leads to greater cohesion and self-esteem in the speech community. That was the case with Livonian, at least: it was only when outsiders began to take an interest in it late in the 19th century that it even became a written language with its own orthography, and that in itself made it possible to use it as a medium of education.

I'd like to conclude by giving a little statistical survey, based on data culled from the Atlas, of the languages that appear to be most endangered today, but I will do that in written form and hand it out to you rather than bombard you with names and figures. Before I do, let me sum up the issue of mapping the future of the world's languages by trying to list the criteria by which we might judge the present health of a language. If you'd like to add to the list of criteria, I'd be most grateful. But it seems to me that the main criteria, in no particular order, are these.

Location The area in which the language is spoken should be evident from the data in the Atlas. Is the area expanding or contracting or remaining stable? Is the language spoken in other locations, and if so, as a first or second language? Is the language area surrounded by speakers of a single, much more widespread and prestigious language, or a diversity of languages? Are surrounding languages genetically similar?

Distribution Population density of the first-language area, proportion of second-language speakers; urban or rural use; cohesion of the speech community as a social and economic unit.

Status Is the language officially recognized as a national or regional language, and is it given tacit or active support? Can it be used in transactions with the state and regional authorities, such as the courts? On a less formal level, is the language given prestige by its own speakers; by out-groups?

Norms Is the language a written one? Does it have an agreed and official orthography for everyday use (as opposed to transcription for specialists)? If the language is oral only, has it been codified in any oral traditions such as folklore recitations? Is there a concept of purism in the language? Has its grammar been codified, by natives or outsiders? Is the language split into a set of mutually intelligible dialects, and are they acknowledged as dialects by the speakers themselves, or separate languages?

Public services and external contacts This issue is closely bound up with status. Are public notices and road signs provided in the language? Is the language understood outside its own speech community? Is an interpretation service available (where applicable)?

Education Is public education available, at least at a local level, in the language? To what standard: primary? secondary? tertiary? Education implies literacy. Are textbooks and other written teaching materials available? Where the language has no official status, is at least informal education available outside the family, such as in classes outside school hours? Do any libraries cater for the language?

Media Is there radio and television broadcasting in the language at a national or regional level? If so, does it have its own network or does it share air-time and frequencies with other languages? Is external broadcasting available to communities abroad? Are newspapers available in the language? If so, with what frequency and what distribution, and are they published with official sanction?

Cultural use Is the language used by the speech community in creative work and traditional cultural expression, such as music and literature? If the speech community is bilingual, is the first language of speech also the first language of culture?

If the viability of a language can be quantified and plotted on a graph, then I feel that combinations of the variables that I've listed here are the factors in the equation.

Endangered languages: a brief continent-by-continent survey

The Americas: North

Eskimo-Aleut family: about 68,000 speakers out of a population of about 71,000

Athapaskan family: 11,655 speakers in Canada (1981), smaller numbers in Alaska; in most cases the majority of the population are speakers

Algonquian family: some languages in Canada and USA retained by majority of population; several have become extinct this century

Muskogean family: only a few languages remain; less than 30,000 speakers altogether (USA)

Siouan family: several languages on point of extinction; less than 10,000 speakers altogether (USA)

Iroquoian family: 6,075 speakers in Canada (1981); all surviving languages in USA have a minority of competent speakers

Caddoan, Yuman, Pomoan, Palaihnihan family: few surviving languages in USA, almost entirely extinct

Uto-Aztecan family: affiliation of some languages disputed; total number of speakers over 40,000 (USA, Mexico)

At least 14 other families and some isolates on the point of extinction

Meso-America

About 15 languages have over 100,000 speakers, and even these are showing signs of attrition. Bilingualism with Spanish is the norm; no official status for any other languages.

South America

The least thoroughly documented continent linguistically. Classification of many languages is still provisional and disputed. Only one language (Guaraní) has official status, and the few that have more than a million speakers are not standardized and have widely varying dialects.

Australasia and the Pacific

Papua and New Guinea constitutes the most linguistically diverse island on earth. Pidgin has de facto official status, as it does on many Pacific islands. Some languages have become regional lingua francas; again, this has occurred on some Pacific islands.

Indonesia, Malaysia and the Philippines have all adopted one official language, with several regional languages of lesser local significance.

Australia: over half the known languages have become extinct in two hundred years of recorded history. Largest number of speakers for any of the 130 or so surviving languages is 2,000; most have less than 100.

New Zealand: Maori distributed throughout the country, but everywhere in the minority; no official status.

The degree of incursion of major metropolitan languages in this region varies greatly from country to country. But great diversity of languages means that bilingualism is the norm.

East and South-east Asia

A few large and fairly well defined language families dominate the region.

Mon-Khmer: a vast family ranging in numbers of speakers from the

millions (Vietnamese, Khmer) to hundreds in numerous cases.
Austro-Thai: several languages with millions of speakers and regional significance; majority of languages have over 10,000 speakers.
Tibeto-Burman: a large group with few languages having more than 100,000 speakers; Burmese is the only one with official status.

Japanese: official language of the nation-state of Japan.
Korean: same for Korea.
Manchu-Tungus & Turkic (China): Uighur is only language with more than a million speakers among these two small groups.
Mongolia: Mongolian Khalkha dialect has official status; a number of distinct dialects recognized.
China: Chinese is national language; autonomous areas allow semi-official status for local languages.

South Asia
Iran, Afghanistan and Pakistan have national languages and some sizeable minorities in each case. In Pakistan, no language is spoken by an absolute majority.
India: number of languages varies widely according to different census data. Eighteen languages given special status under the Constitution (covering 95% of population).
Nepal: Nepali has official status and is spoken by over half the population as a first language.
Sri Lanka: Two languages have more than a million speakers; other langauges are those of immigrants.
Bangladesh: almost entirely Bengali-speaking; tribal populations are small.

Northern Asia and Eastern Europe
Each state of the former USSR and present CIS has one national languages and a number of minority languages, and in each state the national language is spoken by the overwhelming majority. Russia has the largest number of minorities. Numbers of speakers generally well documented.

Western Europe
The continent with the fewest minorities and most homogeneous national languages. Of the countries with national languages, only Iceland and Portugal do not have native minorities.

The Middle East and North Africa
Dominated by the Hamito-Semitic language stock, and only Semitic languages have official status in any of the countries. Greatest diversity of languages in Ethiopia, where some languages are used as regional lingua francas.

Africa (Sub-Saharan)
Multilingualism very widespread; lingua francas, both native and colonial, are found throughout the region. Classification made difficult by lack of data on some languages, but generally fairly well documented. In each country one or more languages has widespread use, while a colonial language has official status. Four major divisions: Niger-Congo, Nilo-Saharan, Khoisan and Chadic.